



SEQUENCE LISTING

<110> HASHIMOTO, Koji  
ASHIMOTO, Michie  
MISHIRO, Shunji  
OTA, Yasuhiko

<120> DETECTION OF NUCLEIC ACID ASSOCIATED WITH DISEASE

<130> 220633US2SRDPCT

<140> US 10/070,415

<141> 2002-03-15

<150> PCT/JP02/02030

<151> 2002-03-05

<150> JP 2001-090053

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<150> JP 2001-284112

<151> 2001-09-18

<160> 72

<170> PatentIn version 3.1

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gggaaggaca tgcctagggt caaggatacg tgcaggcttg gatgactccg ggccattagg      300
gagcctccgg agcaccttga tcctcagacg ggctgatga aacgagcatc tgattcagca      360
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aggtgcgggg ccaggagcta ggtttcgttt ctgctcccgg agccgccctc agcacagggt      480
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ctgtgagttt cattttcttcg ccggcgcggg gcggggctgg gcgcgggggtg aaagaggcga      540
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 gggaaggaca tgcctagggt caaggatacg tgcaggcttg gatgactccg ggccattagg 300  
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 aggtgccccg ccaggagcta ggtttcgttt ctgcaccccg agccgccctc agcacagggt 480  
 ctgtgagttt catttcttcg ccggcgcggg gcggggctgg gcgcgggggtg aaagaggcga 540  
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 ctgcagccat tggcacacaa tgcctgggag tccctgctgg tgctgggatc atcccagtga 180  
 gccctgggag ggaactgaag acccccaatt accaatgcat ctgttttcaa aaccgacggg 240  
 gggaaggaca tgcctagggt caaggatacg tgcaggcttg gatgactccg ggccattagg 300  
 gagcctccgg agcaccttga tcctcagacg ggctgatga aacgagcatc tgattcagca 360

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 ctgtgagttt catttcttcg ccggcgcggg gcggggctgg gcgcgggggtg aaagaggcga 540  
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<210> 21  
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<400> 21  
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<210> 22  
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ctgtgagttt catttcttcg ccggcgcggg gcggggctgg gcgcgggggtg aaagaggcga 540
accgagagcg gaggccgcac tccagcactg cgcagggacc g 581

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<210> 38
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<212> DNA
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<220>
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ctgtgagttt catttcttcg ccggcgcggg gcggggctgg gcgcgggggtg aaagaggcga 540
accgagagcg gaggccgcac tccagcactg cgcagggacc g 581

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. <210> 39  
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<220>  
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 <213> Homo sapiens

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 gccctgggag ggaactgaag acccccaatt accaatgcat ctgttttcaa aaccgacggg 240  
 gggaaggaca tgcctaggtt caaggatacg tgcaggcttg gatgactccg ggccattagg 300  
 gagcctccgg agcaccttga tcctcagacg ggcctgatga aacgagcatc tgattcagca 360

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. ggcctggggtt cgggcccgag aacctgcgtc tcccgcgagt tcccgcgagg caagtgctgc 420
  aggtgcgggg ccaggagcta ggtttcgttt ctgcncctgg agccgccctc agcacagggt 480
  ctgtgagttt catttcttcg ccggcgcggg gcggggctgg gcgcgggggtg aaagaggcga 540
  accgagagcg gaggccgcac tccagcactg cgcagggacc g 581

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<223> n is a nucleotide selected from a, g, c, or t

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<223> n is a nucleotide selected from a, g, c, or t

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<222> (875)..(875)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (884)..(884)
<223> n is a nucleotide selected from a, g, c, or t

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  ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180
  cctcttttga tcaccagctt tcagctcagg gcctgccaat gagtaaatga tagttaacag 240
  gtcttgagg ggaatcagct gccagatac aaagatggga ttcagggtggc agatggaccc 300
  gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc 360

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<213> Homo sapiens
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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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<220>  
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 <222> (875)..(875)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (884)..(884)  
 <223> n is a nucleotide selected from a, g, c, or t

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 ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180  
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<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (649)..(649)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
<221> misc_feature
<222> (868)..(868)
<223> n is a nucleotide selected from a, g, c, or t

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<220>  
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 <222> (875)..(875)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
 <221> misc\_feature  
 <222> (884)..(884)  
 <223> n is a nucleotide selected from a, g, c, or t

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 ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180  
 cctcttttga tcaccagctt tcagctcagg gcctgccaat gagtaaata tagttaacag 240  
 gtctctggagg ggaatcagct gccagatac aaagatggga ttcaggtggc agatggaccc 300  
 gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc 360  
 attccctaag ctaacaggca taagccagct ggcaatgcac ggtcccattt gttctcactg 420  
 ccacagaaaag catgtttata gtcttcacgc agcaacgcca ggtgtctagg cacagatgaa 480  
 cccctcctta ggatccccac tgctcatcat agtgccctacc tttgttaaag tactagtcac 540  
 gcagtgtcac aaggaatgtt tactttttcca aatccccagc tagaggccag ggatgggtca 600  
 tctattttcta tatagcctgc acccagattg taggacagag ggcattgctng gtaaatatgt 660  
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 ggtcattgtc atgtcagacc cctattcact tcagtaggga tggcaccagg ttcaagaggc 1200  
 caaagaagag atggagtcag caaacaaca taggttttac tgggggaatc tgtttacagg 1260

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gagatccagc agcagtgggc tggacaggag aacaacaact actggtaaaa acaaatgcag 1320
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ttattgctct caggtgcaca ccatacagtt attgagagca gtgctcagaa aggtcagtcc 1440
tgggtcaagg tctcccttct cctgagaagg gattgggcat caaactcttg aagagagaga 1500
gcaagaacat agatattaag tcacatttcc tttgtcttcc aacaggccaa gggctcagag 1560
gcttacaggg cccccctgga aagttggggc ctccaggaaa tccagggcct tctgggtcac 1620
caggaccaaa gggccaaaaa ggagaccctg gaaaaagtcc gggtaaggac cccagcaagg 1680
tctgagctga cttcacccag ggttctgaga ccttgagtat ctggtaagag gtgcccttc 1740
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tc 1802

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<210> 44
<211> 1802
<212> DNA
<213> Homo sapiens

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<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (649)..(649)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (868)..(868)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (875)..(875)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
<221> misc_feature
<222> (884)..(884)
<223> n is a nucleotide selected from a, g, c, or t

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<400> 44

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ccagttaatt ctgggctggg ttggtgacta	aggttgaggt tgatctgagg ttgagacctt	180
cctctttgga tcaccagctt tcagctcagg	gcctgccaat gagtaaatga tagttaacag	240
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gaagaggaca tggagagaaa gaggaagctc	ctacagacac ctgggtttcc actcattctc	360
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ccactgaaag catgtttata gtcttcagc	agcaacgcc ggtgtctagg cacagatgaa	480
ccccctcta ggatccccac tgctcatcat	agtgcctacc tttgttaaag tactagtcac	540
gcagtgtcac aaggaatgtt tacttttcca	aatccccagc tagaggccag ggatgggtca	600
tctatttcta tatagcctgc acccagattg	taggacagag ggcattgctng gtaaataatgt	660
gttcattaac tgagattaac ctccctgag	ttttctcaca ccaaggtgag gaccatgtcc	720
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tctgagctga cttcaccag ggttctgaga	ccttgagtat ctggtaagag gtgcccttc	1740

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 tc 1802

<210> 45  
 <211> 1802  
 <212> DNA  
 <213> Homo sapiens

<220>  
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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (884)..(884)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <223> n is a nucleotide selected from a, g, c, or t

<400> 45  
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 ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180  
 cctctttgga tcaccagctt tcagctcagg gcctgccaat gagtaaatga tagttaacag 240  
 gtcctggagg ggaatcagct gccagatac aaagatggga ttcagggtggc agatggaccc 300  
 gaagaggaca tggagagaaa gaggaagctc ctacagacac ctggggtttcc actcattctc 360  
 attccctaag ctaacaggca taagccagct ggcaatgcac ggtcccattt gttctcactg 420  
 ccacngaaag catgtttata gtcttccagc agcaacgcca ggtgtctagg cacagatgaa 480

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ccccctcctta ggatccccac tgctcatcat agtgcctacc tttgttaaag tactagtcac      540
gcagtgtcac aaggaatgtt tactttttcca aatccccagc tagaggccag ggatgggtca      600
tctattttcta tatagcctgc acccagattg taggacagag ggcattgctng gtaaatatgt      660
gttcattaac tgagattaac cttccctgag ttttctcaca ccaaggtgag gaccatgtcc      720
ctgtttccat cactccctct ctttctcctg agtatgggtgg cagcgtctta ctcagaaact      780
gtgacctgtg aggatgcccc aaagacctgc cctgcagtga ttgcctgtag ctctccaggc      840
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ggtagctgtt gggctgttct gtctctgcaa ttctttacct tccagaggaa actgcctggg      960
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tctgagctga cttcaccagc ggttctgaga ccttgagtat ctggtaagag gtgcccttc    1740
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tc                                                                 1802

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<210> 46
<211> 1802
<212> DNA
<213> Homo sapiens

<220>
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<223> n is a nucleotide selected from a, g, c, or t

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<220>  
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 <222> (425)..(425)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
 <221> misc\_feature  
 <222> (649)..(649)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (868)..(868)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (884)..(884)  
 <223> n is a nucleotide selected from a, g, c, or t

<400> 46  
 gaattcctgc cagaaagtag agaggtatth agcactctgc cagggccaac gtagtaagaa 60  
 atttccagag aaaatgctta cccaggcaag cctgtntaaa acaccaaggg gaagcaaact 120  
 ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180  
 cctcttttga tcaccagctt tcagctcagg gcctgccaat gagtaaatga tagttaacag 240  
 gtctctggagg ggaatcagct gccagatac aaagatggga ttcaggtggc agatggaccc 300  
 gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc 360  
 attccctaag ctaacaggca taagccagct ggcaatgcac ggtcccatth gttctcactg 420  
 ccacngaaag catgtttata gtcttcagc agcaacgcca ggtgtctagg cacagatgaa 480  
 cccctcctta ggatccccac tgctcatcat agtgcctacc tttgttaaag tactagtcac 540  
 gcagtgtcac aaggaatgtt tacttttcca aatccccagc tagaggccag ggatgggtca 600  
 tctatttteta tatagcctgc acccagattg taggacagag ggcattgctng gtaaatatgt 660  
 gttcattaac tgagattaac ctccctgag tttcttcaca ccaaggtgag gaccatgtcc 720  
 ctgtttccat cactccctct ccttctcctg agtatggtgg cagcgtctta ctcaaaaact 780  
 gtgacctgtg aggatgcccc aaagacctgc cctgcagtga ttgcctgtag ctctccaggc 840  
 atcaacggct tcccaggcaa agatgggngt gatgacacca aggnagaaaa gggggaacca 900

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. ggtacgtggtt gggctgttct gtctctgcaa ttctttacct tccagaggaa actgcctggg      960
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. acagagattc agctcgaatt ccacacagca gtttgtgact aatagttgtc ttgccagccc      1080
  aggaaagtgg cccacaggtc aggccatccc gtgggacaca ggatgaattt ttcttctctg      1140
  ggtcattgtc atgtcagacc cctattcact tcagtaggga tggcaccagg ttcaagaggc      1200
  caaagaagag atggagtcag caaacaacaa taggttttac tgggggaatc tgtttacagg      1260
  gagatccagc agcagtgggc tggacaggag aacaacaact actggtaaaa acaaatgcag      1320
  ttaattttca ctttgcaccc tccctgcagc aacctccaag tggcaacttt atttcttaag      1380
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  tctgagctga cttcacccag ggttctgaga ccttgagtat ctggtaagag gtgccccctc      1740
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  tc                                                                                   1802

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<210> 47
<211> 1802
<212> DNA
<213> Homo sapiens

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~~<223> n is a nucleotide selected from a, g, c, or t~~

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<220>
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<222> (425)..(425)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (649)..(649)
<223> n is a nucleotide selected from a, g, c, or t

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<220>

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<221> misc\_feature  
 <222> (868)..(868)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <223> n is a nucleotide selected from a, g, c, or t

<400> 47  
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 ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180  
 cctcttttga tcaccagctt tcagctcagg gcctgccaat gagtaaata tagttaacag 240  
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 gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc 360  
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 ccacngaaag catgtttata gtcttcacgc agcaacgcca ggtgtctagg cacagatgaa 480  
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tc 1802

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<210> 48
<211> 1802
<212> DNA
<213> Homo sapiens

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<220>
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<222> (96)..(96)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (425)..(425)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
<221> misc_feature
<222> (649)..(649)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
<221> misc_feature
<222> (868)..(868)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
<221> misc_feature
<222> (884)..(884)
<223> n is a nucleotide selected from a, g, c, or t

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gaattcctgc cagaaagtag agaggatattt agcactctgc cagggccaac gtagtaagaa 60
atttccagag aaaatgctta cccaggcaag cctgtntaaa acaccaaggg gaagcaaact 120

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ccagttaatt	ctgggctggg	ttggtgacta	aggttgaggt	tgatctgagg	ttgagacctt	180
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gcttacaggg	cccccttga	aagttggggc	ctccaggaaa	tccagggcct	tctgggtcac	1620
caggaccaa	gggcaaaaa	ggagaccctg	gaaaaagtcc	gggtaaggac	cccagcaagg	1680
tctgagctga	cttcacccag	ggttctgaga	ccttgagtat	ctggtaagag	gtgccccttc	1740
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<210> 49  
 <211> 1802  
 <212> DNA  
 <213> Homo sapiens

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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (425)..(425)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (649)..(649)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (884)..(884)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (875)..(875)  
 <223> n is a nucleotide selected from a, g, c, or t

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 ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180  
 cctctttgga tcaccagctt tcagctcagg gcctgccaat gagtaaatga tagttaacag 240  
 gtcctggagg ggaatcagct gccagatac aaagatggga ttcaggtggc agatggaccc 300  
 gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc 360  
 attccctaag ctaacaggca taagccagct ggcaatgcac ggtcccattt gttctcactg 420  
 ccacngaaag catgtttata gtcttccagc agcaacgccca ggtgtctagg cacagatgaa 480  
 ccctcctta ggatccccac tgctcatcat agtgcctacc tttgttaaag tactagtcac 540

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gcagtgtcac aaggaatggt tacttttcca aatccccagc tagaggccag ggatgggtca 600
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gttcattaac tgagattaac cttccctgag ttttctcaca ccaaggtgag gaccatgtcc 720
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caggaccaa gggccaaaaa ggagaccctg gaaaaagtcc gggtaaggac cccagcaagg 1680
tctgagctga cttcaccag ggttctgaga ccttgagtat ctggtaagag gtgccccctc 1740
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tc 1802

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<210> 50

<211> 1802

<212> DNA

<213> Homo sapiens

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<223> n is a nucleotide selected from a, g, c, or t

<220>

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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (875)..(875)  
 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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 <222> (425)..(425)  
 <223> n is a nucleotide selected from a, g, c, or t

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 ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180  
 cctcttttga tcaccagctt tcagctcagg gcctgccaat gagtaaata tagttaacag 240  
 gtcttgagg ggaatcagct gccagatac aaagatggga ttcaggtggc agatggaccc 300  
 gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc 360  
 attccctaag ctaacaggca taagccagct ggcaatgcac ggtcccattt gttctcactg 420  
 ccacngaaag catgtttata gtcttcagc agcaacgcca ggtgtctagg cacagatgaa 480  
 cccctcctta ggatccccac tgctcatcat agtgcctacc tttgttaaag tactagtcac 540  
 gcagtgtcac aaggaatgtt tacttttcca aatccccagc tagaggccag ggatgggtca 600  
 tctattttcta tatagcctgc acccagattg taggacagag ggcattgctng gtaaatatgt 660  
 gttcattaac tgagattaac ctccctgag ttttctcaca ccaaggtgag gaccatgtcc 720  
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 gtgacctgtg aggatgcccc aaagacctgc cctgcagtga ttgcctgtag ctctccaggg 840  
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 ggtacgtgtt gggctgttct gtctctgcaa ttctttacct tccagaggaa actgcctggg 960  
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caaagaagag atggagtcag caaacaaca taggttttac tgggggaatc tgtttacagg 1260
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tc 1802

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<210> 51
<211> 1802
<212> DNA
<213> Homo sapiens

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<220>
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<223> n is a nucleotide selected from a, g, c, or t

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<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (875)..(875)
<223> n is a nucleotide selected from a, g, c, or t

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<220>  
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 <223> n is a nucleotide selected from a, g, c, or t

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ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt      180
cctcttttga tcaccagctt tcagctcagg gcctgccaat gagtaaatga tagttaacag      240
gtcctggagg ggaatcagct gccagatac aaagatggga ttcagggtggc agatggaccc      300
gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc      360
attccctaag ctaacaggca taagccagct ggcaatgcac ggtcccattt gttctcactg      420
ccacngaaag catgtttata gtcttcagc agcaacgcca ggtgtctagg cacagatgaa      480
cccctcctta ggatccccac tgctcatcat agtgcctacc tttgttaaag tactagtcac      540
gcagtgtcac aaggaatgtt tacttttcca aatccccagc tagaggccag ggatgggtca      600
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gttcattaac tgagattaac cttccctgag ttttctcaca ccaagggtgag gaccatgtcc      720
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caaagaagag atggagtcag caaacaacaa taggttttac tgggggaatc tgtttacagg     1260
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tc 1802

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<210> 52
<211> 1802
<212> DNA
<213> Homo sapiens

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<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (649)..(649)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<223> n is a nucleotide selected from a, g, c, or t

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ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180

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cctcttttga	tcaccagctt	tcagctcagg	gcctgccaat	gagtaaata	tagttaacag	240
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gaagaggaca	tggagagaaa	gaggaagctc	ctacagacac	ctgggtttcc	actcattctc	360
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tc						1802

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. <210> 53
  <211> 1802
  <212> DNA
. <213> Homo sapiens

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<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<223> n is a nucleotide selected from a, g, c, or t

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gaattcctgc cagaaagtag agaggtatth agcactctgc cagggccaac gtagtaagaa 60
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ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180
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cccctcctta ggatccccac tgctcatcat agtgcctacc tttgttaaag tactagtcac 540
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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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  caaagaagag atggagtcag caaacaaca taggttttac tgggggaatc tgtttacagg 1260
  gagatccagc agcagtgggc tggacaggag aacaacaact actggtaaaa acaaatgcag 1320
  ttaattttca ctttgcaccc tccctgcagc aacctccacg tggcaacttt atttcttaag 1380
  ttattgctct caggtgcaca ccatacagtt attgagagca gtgctcagaa aggtcagtc 1440
  tgggtcaagg tctcccttct cctgagaagg gattgggcat caaactcttg aagagagaga 1500
  gcaagaacat agatattaag tcacatttcc tttgtcttcc aacaggccaa gggctcagag 1560
  gcttacaggg cccccctgga aagttggggc ctccaggaaa tccagggcct tctgggtcac 1620
  caggaccaa gggccaaaaa ggagaccctg gaaaaagtcc gggtaaggac cccagcaagg 1680
  tctgagctga cttcaccagc ggttctgaga ccttgagtat ctggtaagag gtgccccttc 1740
  tcctgttct tcaaaggaag atacccaaat ttgctttctg acccagtgcc ctcagccctc 1800
  tc 1802

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<210> 55
<211> 1802
<212> DNA
<213> Homo sapiens

<220>
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<222> (96)..(96)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
<221> misc_feature
<222> (425)..(425)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
<221> misc_feature
<222> (649)..(649)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
<221> misc_feature
<222> (868)..(868)
<223> n is a nucleotide selected from a, g, c, or t

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<220>

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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
 <221> misc\_feature  
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 <223> n is a nucleotide selected from a, g, c, or t

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 ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt 180  
 cctcttttga tcaccagctt tcagctcagg gcttgccaat gagtaaatga tagttaacag 240  
 gtcttgagg ggaatcagct gccagatac aaagatggga ttcagggtggc agatggagccc 300  
 gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc 360  
 attccctaag ctaacaggca taagccagct ggcaatgcac ggtcccattt gttctcactg 420  
 ccacngaaag catgtttata gtcttcagc agcaacgcca ggtgtctagg cacagatgaa 480  
 cccctcctta ggatccccac tgctcatcat agtgcctacc tttgttaaag tactagtcac 540  
 gcagtgtcac aaggaatgtt tacttttcca aatccccagc tagaggccag ggatgggtca 600  
 tctattttcta tatagcctgc acccagattg taggacagag ggcattgctng gtaaataatgt 660  
 gttcattaac tgagattaac cttccctgag ttttctcaca ccaagggtgag gaccatgtcc 720  
 ctgtttccat cactccctct ccttctctg agtatggtgg cagcgtctta ctcaaaaact 780  
 gtgacctgtg aggatgcccc aaagacctgc cctgcagtga ttgcctgtag ctctccaggc 840  
 atcaacggct tcccaggcaa agatgggngt gatgncacca aggtagaaaa gggggaacca 900  
 ggtacgtgtt gggctgttct gtctctgcaa ttctttacct tccagaggaa actgcctggg 960  
 gatatgagga gactgatgtc ctatttgagt atatttttct caactatact gtaactcaaa 1020  
 acagagattc agctcgaatt ccacacagca gtttgtgact aatagttgtc ttgccagccc 1080  
 aggaaagtgg cccacaggtc aggccatccc gtgggacaca ggatgaattt ttcttctctg 1140  
 ggtcattgtc atgtcagacc cctattcact tcagtaggga tggcaccagg ttcaagaggc 1200  
 caaagaagag atggagtcag caaacaaca taggttttac tgggggaatc tgtttacagg 1260  
 gagatccagc agcagtgggc tggacaggag aacaacaact actggtaaaa acaaatgcag 1320  
 ttaattttca ctttgcaccc tccctgcagc aacctccagc tggcaacttt atttcttaag 1380

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ttattgctct caggtgcaca ccatacagtt attgagagca gtgctcagaa aggtcagtcc 1440
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gcaagaacat agatattaag tcacatttcc tttgtcttcc aacaggccaa gggctcagag 1560
gcttacaggg cccccctgga aagttggggc ctccaggaaa tccagggcct tctgggtcac 1620
caggaccaaa gggccaaaaa ggagaccctg gaaaaagtcc gggtaaggac cccagcaagg 1680
tctgagctga cttcaccagc gggtctgaga ccttgagtat ctggtaagag gtgcccttc 1740
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tc 1802

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<210> 56
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<212> DNA
<213> Homo sapiens

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<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (649)..(649)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<222> (425)..(425)
<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<223> n is a nucleotide selected from a, g, c, or t

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<220>
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<223> n is a nucleotide selected from a, g, c, or t

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<400> 56
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atttcagag aaaatgctta cccaggcaag cctgtntaaa acaccaaggg gaagcaaact 120

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ccagttaatt ctgggctggg ttggtgacta aggttgaggt tgatctgagg ttgagacctt	180
cctcttttggg tcaccagctt tcagctcagg gcctgccaat gagtaaata tagttaacag	240
gtcctggagg ggaatcagct gccagatac aaagatggga ttcaggtggc agatggaccc	300
gaagaggaca tggagagaaa gaggaagctc ctacagacac ctgggtttcc actcattctc	360
attccctaag ctaacaggca taagccagct ggcaatgcac ggtcccattt gttctcactg	420
ccacngaaag catgtttata gtcttcagc agcaacgcca ggtgtctagg cacagatgaa	480
cccctcctta ggatccccac tgctcatcat agtgcctacc tttgttaaag tactagtcac	540
gcagtgtcac aaggaatgtt tacttttcca aatccccagc tagaggccag ggatgggtca	600
tctatttcta tatagcctgc acccagattg taggacagag ggcattgctng gtaaataatgt	660
gttcattaac tgagattaac cttccctgag tttcttcaca ccaaggtgag gaccatgtcc	720
ctgtttccat cactccctct ccttctcctg agtatgggtg cagcgtctta ctcagaaact	780
gtgacctgtg aggatgccc aaagacctgc cctgcagtga ttgcctgtag ctctccaggc	840
atcaacggct tcccaggcaa agatggngt gatgncacca aggcagaaaa gggggaacca	900
ggtagctgtt gggctgttct gtctctgcaa ttctttacct tccagaggaa actgcctggg	960
gatatgagga gactgatgtc ctatttgagt atatttttct caactatact gtaactcaaa	1020
acagagattc agctcgaatt ccacacagca gtttgtgact aatagttgtc ttgccagccc	1080
aggaaagtgg cccacaggtc aggccatccc gtgggacaca ggatgaattt ttcttctctg	1140
ggtcattgtc atgtcagacc cctattcact tcagtaggga tggcaccagg ttcaagaggc	1200
caaagaagag atggagtcag caaacaaca taggttttac tgggggaatc tgtttacagg	1260
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ttattgctct caggtgcaca ccatacagtt attgagagca gtgctcagaa aggtcagtcc	1440
tgggtcaagg tctcccttct cctgagaagg gattgggcat caaactcttg aagagagaga	1500
gcaagaacat agatattaag tcacatttcc tttgtcttcc aacaggccaa gggctcagag	1560
gcttacaggg cccccctgga aagttggggc ctccaggaaa tccagggcct tctgggtcac	1620
caggaccaa gggccaaaaa ggagaccctg gaaaaagtcc gggtaaggac ccagcaagg	1680
tctgagctga cttcaccag ggttctgaga ccttgagtat ctggtaagag gtgccccttc	1740
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tc

<210> 57  
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 <212> DNA  
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 <223> n is a nucleotide selected from a, g, c, or t

<220>  
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<400> 57  
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18

<210> 58  
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<400> 58  
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18

<210> 59  
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18

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<400> 60  
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18

<210> 61  
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<220>  
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 <223> n is a nucleotide selected from a, g, c, or t

<400> 61  
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18

<210> 62  
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<220>



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<220>  
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<400> 62  
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18

<210> 63  
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<220>  
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<400> 63  
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18

<210> 64  
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 <213> Homo sapiens

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<220>  
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 <222> (17)..(17)  
 <223> n is a nucleotide selected from a, g, c, or t

<400> 64  
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18

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<210> 65
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<220>
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<400> 65
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18

<210> 66
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<213> Homo sapiens

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<223> n is a nucleotide selected from a, g, c, or t

<220>
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<222> (8)..(8)
<223> n is a nucleotide selected from a, g, c, or t

<400> 66
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18

<210> 67
<211> 18
<212> DNA
<213> Homo sapiens

<220>
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<222> (1)..(1)
<223> n is a nucleotide selected from a, g, c, or t

<220>
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<222> (8)..(8)
<223> n is a nucleotide selected from a, g, c, or t

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<212> DNA	
<213> Homo sapiens	
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<210> 70	
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<400> 70	
tgcgcagtgc tggagtgcgg cctccgctct	30
<210> 71	
<211> 19	
<212> DNA	
<213> Homo sapiens	
<400> 71	
cctgtgagga actactgtc	19
<210> 72	
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<212> DNA	

✓ <213> Homo sapiens

<400> 72

■ ggtgcacggt ctacgagacc

20